CLAIMS

1.   A method of operating a path computation element, said method comprising:

5   determining that a fragmented bandwidth condition exists in a network; and

in response to said fragmented bandwidth condition, causing rerouting of MPLS Traffic Engineering paths to increase likelihood of successful placements.

2.   The method of claim 1 wherein causing rerouting comprises:

10   distributing a reoptimization request to a plurality of nodes within said network.

3.   The method of claim 2 wherein causing rerouting further comprises:

receiving requests for reoptimization of paths until a timer expires; thereafter

recomputing said paths in response to said requests.

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4.   The method of claim 3 wherein recomputing comprises:

recomputing employing a virtual shortest path tree technique.

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5.   The method of claim 3 wherein recomputing comprises:

recomputing said paths in order of decreasing bandwidth requirements.

5   6.   The method of claim 1 wherein determining comprises:

monitoring a failure rate in establishing paths; and

comparing results of said monitoring to a failure rate criterion.

7. A method of operating a path computation element to increase the likelihood

10   of successful path placements, said method comprising:

distributing a reoptimization request to a plurality of nodes within said network;

receiving requests for reoptimization of paths until a timer expires; and thereafter

recomputing said paths in response to said requests.

15   8.   The method of claim 7 wherein recomputing comprises:

recomputing employing a virtual shortest path tree technique.

9.   The method of claim 7 wherein recomputing comprises:

recomputing said paths in order of decreasing bandwidth requirements.

5   10.   A computer program product for operating a path computation element, said computer program product comprising:

code that causes a determination that a fragmented bandwidth condition exists in a network;

code that, in response to said fragmented bandwidth condition, causes rerouting of

10   MPLS Traffic Engineering paths to increase likelihood of successful placements; and

a computer-readable medium that holds the codes.

11.   The computer program product of claim 10 wherein said code that causes rerouting comprises:

code that causes distribution of a reoptimization request to a plurality of nodes

15   within said network.

12.   The computer program product of claim 11 wherein said code that causes rerouting further comprises:

code that causes receipt of requests for reoptimization of paths until a timer

expires; and

code that causes recomputation of said paths in response to said requests.

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13.   The computer program product of claim 12 wherein said code that causes

recomputation of said paths comprises:

code that causes recomputation of said paths by employing a virtual shortest path

tree technique.

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14.   The computer program product of claim 13 wherein said code that causes

recomputation comprises:

code that causes recomputation of said paths in order of decreasing bandwidth

requirements.

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15.   The computer program product of claim 10 wherein said code that causes

determination of a fragmented bandwidth condition comprises:

code that causes monitoring of a failure rate in establishing paths; and

code that causes comparison of results of said monitoring to a failure rate criterion.

5   16. A computer program product for operating a path computation element to increase the likelihood of successful path placements, said computer program product comprising:

code that causes distribution of a reoptimization request to a plurality of nodes within said network;

10   code that causes reception of requests for reoptimization of paths until a timer expires;

code that causes recomputation of said paths in response to said requests; and

a computer-readable medium that holds the codes.

15   17.   The computer program product of claim 16 wherein said code that causes recomputation of paths comprises:

code that causes recomputation employing a virtual shortest path tree technique.

18.   The computer program product of claim 16 wherein said code that causes recomputation comprises:

code that causes recomputation of said paths in order of decreasing bandwidth

5   requirements.

19.   Apparatus for operating a path computation element, said apparatus comprising:

a processor;

10   a memory device that stores instructions for execution by said processor, said instructions comprising:

code that causes a determination that a fragmented bandwidth condition exists in a network; and

code that, in response to said fragmented bandwidth condition, causes

15 rerouting of MPLS Traffic Engineering paths to increase likelihood of successful placements.

20. Apparatus for operating a path computation element to increase the likelihood of successful path placements, said apparatus comprising:

a processor;

a memory device that stores instructions for execution by said processor, said

instructions comprising:

5   code that causes distribution of a reoptimization request to a plurality of

nodes within said network;

code that causes reception of requests for reoptimization of paths until a

timer expires; and

code that causes recomputation of said paths in response to said requests.

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21.   Apparatus for operating a path computation element, said method

comprising:

means for determining that a fragmented bandwidth condition exists in a network;

and

15   means for, in response to said fragmented bandwidth condition, causing rerouting

of MPLS Traffic Engineering paths to increase likelihood of successful placements.

22. Apparatus for operating a path computation element to increase the likelihood of successful path placements, said apparatus comprising:

means for distributing a reoptimization request to a plurality of nodes within said

5   network;

means for receiving requests for reoptimization of paths until a timer expires; and thereafter

means for recomputing said paths in response to said requests.